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SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC  
Suite 800  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037-3213

EXAMINER

AUGHENBAUGH, WALTER

ART UNIT	PAPER NUMBER
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1772

17

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

A217

**Office Action Summary**

Application No.

09/788,351

Applicant(s)

USUI ET AL.

Examiner

Walter B Aughenbaugh

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Acknowledgement of Applicant's Amendments***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 21, 2003 (Paper 16) has been entered.
2. The amendments made in claims 1, 2, 7 and 13 in Paper 16 have been received and considered by Examiner.

### ***WITHDRAWN REJECTIONS***

3. The 35 U.S.C. 112 rejection of claims 1-18 made of record in paragraph 4 of Paper 4 and repeated in paragraph 8 of Paper 8 have been withdrawn due to Examiner's amendments in Paper 16.
4. The 35 U.S.C. 102 rejection of claims 1 and 7-10 as anticipated by Hayashi et al. made of record in paragraph 6 of Paper 4 has been withdrawn due to Examiner's reconsideration of the language of claims 1 and 7. See the new 35 U.S.C. 102(b) rejection to claims 1, 7-10, 19 and 21 as being anticipated by Hayashi et al. below.
5. The 35 U.S.C. 102 rejection of claims 2 and 13-16 as anticipated by Hayashi et al. made of record in paragraph 6 of Paper 4 has been withdrawn due to Applicant's amendments to claims 2 and 13 in Paper 16.
6. The 35 U.S.C. 102 rejection of claims 19-22 as anticipated by Hayashi et al. made of record in paragraph 12 of Paper 8 has been withdrawn due to Examiner's reconsideration of the

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language of claims 1 and 7 where applicable (i.e. claims 19 and 21) or due to Applicant's amendments to claims 2 and 13 in Paper 16 where applicable (i.e. claims 20 and 22).

7. The 35 U.S.C. 103 rejection of claims 3, 5, 11 and 17 over Hayashi et al. in view of Usui (US 6,306,254) and in further view of Patent Abstract of Japan 03036545 of Goto et al. made of record in paragraph 8 of Paper 4 has been withdrawn due to Examiner's reconsideration of the language of claims 1 and 7 where applicable (i.e. claims 3 and 11) or due to Applicant's amendments to claims 2 and 13 in Paper 16 where applicable (i.e. claims 5 and 17).

8. The 35 U.S.C. 103 rejection of claims 4, 6, 12 and 18 over Hayashi et al. in view of Dirx and in further view of Usui et al. (JP 8-39958) made of record in paragraph 9 of Paper 4 has been withdrawn due to Examiner's reconsideration of the language of claims 1 and 7 where applicable (i.e. claims 4 and 12) or due to Applicant's amendments to claims 2 and 13 in Paper 16 where applicable (i.e. claims 6 and 18).

### ***NEW REJECTIONS***

#### ***Claim Rejections - 35 USC § 112***

9. Claims 1, 3, 5, 11 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the opposing surface" in the fifth-sixth lines of the claim. There is insufficient antecedent basis for this limitation in the claim.

In regard to claims 3, 5, 11 and 17, the nature of the "moisture" property claimed is indefinite.

***Claim Rejections - 35 USC § 102***

10. Claims 1, 7-10, 19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi et al.

In regard to claim 1, Hayashi et al. teach a sheet material comprising opposing surfaces (paper having smooth surfaces, col. 8, lines 30-39). Hayashi et al. teach that the paper having smooth surfaces has a Bekk smoothness of 5 to 10,000 seconds (col. 2, lines 48-54 and col. 8, lines 39-42), a range that overlaps with the range of 3 to 55 seconds claimed in the instant application. Given that the sheet of paper has “smooth surfaces” (col. 2, lines 40 and 45-47 and col. 8, lines 30-39), Examiner interprets the use of the plural form of “surface” to indicate that both surfaces of the sheet of paper have a degree of smoothness as quantified by the stipulated Bekk smoothness range of 5-10,000.

In further regard to claim 1, the phrases “for packaging a planographic printing plate”, “is to be fed through an automatic plate-feeding mechanism” and “one surface being for contacting the imaging surface of a printing plate when the material is used for packaging the planographic printing plate”, are intended use phrases that have not given patentable weight, since it has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQd 1647 (1987). The phrase “wherein the planographic printing plate includes an aluminum substrate and an imaging surface having a coating film”, consequently, has not been given patentable weight.

In regard to claim 7, Hayashi et al. teach a sheet material comprising a surface (paper having smooth surfaces, col. 8, lines 30-39). Hayashi et al. teach that the paper having smooth

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surfaces has a Bekk smoothness of 5 to 10,000 seconds (col. 2, lines 48-54 and col. 8, lines 39-42), a range that overlaps with the range of 3 to 900 seconds claimed in the instant application. Given that the sheet of paper has “smooth surfaces” (col. 2, lines 40 and 45-47 and col. 8, lines 30-39), Examiner interprets the use of the plural form of “surface” to indicate that both surfaces of the sheet of paper have a degree of smoothness as quantified by the stipulated Bekk smoothness range of 5-10,000. The phrases “for packaging a planographic printing plate” and “which contacts the coating film of the planographic printing plate when the sheet material is used for packaging the planographic printing plate”, are intended use phrases that have not given patentable weight, since it has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQd 1647 (1987). The phrase “wherein the planographic printing plate includes an aluminum substrate and a coating film”, consequently, has not been given patentable weight. The stipulation that the “surface” recited in the third line of claim 7 is a “contact surface” is therefore not a positive limitation since the “surface” is a “contact surface” (i.e. it “contacts the coating film of the planographic printing plate”) “when the sheet material is used for packaging the planographic printing plate”; therefore, the stipulation that the “surface” recited in the third line of claim 7 is a “contact surface” has not been given patentable weight. Consequently, the terms “contact” and “noncontact” in the phrase “and a noncontact surface opposing the contact surface” have not been given patentable weight. The sheet of paper of Hayashi et al. necessarily has a surface opposing the surface recited in the third line of claim 7 since a sheet of paper has two surfaces.

In regard to claims 8-10, 19 and 21, Hayashi et al. teach that the paper having smooth surfaces has a Bekk smoothness of 5 to 10,000 seconds (col. 2, lines 48-54 and col. 8, lines 39-42), a range that overlaps with the ranges of 3 to 100 seconds, 250 to 900 seconds, 8 to 560 seconds, 3 to 900 seconds and 3 to 55 seconds as claimed in claims 8, 9, 10, 19 and 21 of the instant application, respectively. Given that the sheet of paper has “smooth surfaces” (col. 2, lines 40 and 45-47 and col. 8, lines 30-39), Examiner interprets the use of the plural form of “surface” to indicate that both surfaces of the sheet of paper have a degree of smoothness as quantified by the stipulated Bekk smoothness range of 5-10,000.

***Claim Rejections - 35 USC § 103***

11. Claims 2, 13-16, 20 and 22 are rejected under 35 U.S.C. 103(a) over Coppens et al. in view of Hayashi et al.

In regard to claim 2, Coppens et al. teach a package sheet structure comprising at least one planographic printing plate (col. 1, lines 30-34 and col. 3, lines 53-58) comprising an aluminum substrate (hydrophilic base, col. 4, lines 5-6) and an imaging surface (photosensitive layer, col. 3, lines 54-56). Note that “aluminium” (col. 4, line 5) is an alternative spelling of “aluminum” that is used outside of the U.S. as evidenced in the Third Electronic Edition of the CRC Handbook of Chemistry and Physics (page 4-3), and that Coppens et al. reside in Belgium. Coppens et al. teach that the package sheet structure comprises a packaging material (paper spacer, col. 3, lines 41-43) packaging the planographic printing plate having opposing surfaces with one surface contacting the imaging surface of the planographic printing plate (col. 3, lines 41-43).

Coppens et al. fail to teach that the surface opposing the imaging surface has a Bekk smoothness of from 3 to 55 seconds.

Hayashi et al., however, disclose a photographic sheet material composed of a support and a sensitive emulsion coated on the support (col. 8, lines 30-39 and col. 4, line 45). Hayashi et al. disclose that a sheet of paper having smooth surfaces is inserted between every two sheets of the sheet material (col. 8, lines 30-39) or the sheets of paper and sheets of the sheet material are placed alternately (col. 9, lines 3-8). Hayashi et al. disclose that the paper has a Bekk smoothness of 5 to 10,000 seconds (col. 2, lines 48-54 and col. 8, lines 39-42), a range that overlaps with the range of 3 to 55 seconds claimed in the instant application. Given that the sheet of paper has “smooth surfaces” (col. 2, lines 40 and 45-47 and col. 8, lines 30-39), Examiner interprets the use of the plural form of “surface” to indicate that both surfaces of the sheet of paper have a degree of smoothness as quantified by the stipulated Bekk smoothness range of 5-10,000. Therefore, one of ordinary skill in the art would have recognized to have used paper as the paper spacer of Coppens et al. that has a Bekk smoothness of 5 to 10,000 seconds, a range that overlaps with the range of 3 to 55 seconds claimed in the instant application, since paper having Bekk smoothness values of from 5 to 10,000 seconds are notoriously well known suitable smoothness values for packaging photographic sheet material as taught by Hayashi et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used paper as the paper spacer of Coppens et al. that has a Bekk smoothness of 5 to 10,000 seconds, a range that overlaps with the range of 3 to 55 seconds claimed in the instant application, since paper having Bekk smoothness values of from 5 to 10,000 seconds are



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notoriously well known suitable smoothness values for packaging photographic sheet material as taught by Hayashi et al.

In further regard to claim 2, the phrase “for feeding through an automatic plate feeding mechanism” is an intended use phrase that has not given patentable weight, since it has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQd 1647 (1987).

In regard to claim 13, Coppens et al. teach a package sheet structure comprising at least one planographic printing plate (col. 1, lines 30-34 and col. 3, lines 53-58) comprising an aluminum substrate (hydrophilic base, col. 4, lines 5-6) and a coating film (photosensitive layer, col. 3, lines 54-56). Note that “aluminium” (col. 4, line 5) is an alternative spelling of “aluminum” that is used outside of the U.S. as evidenced in the Third Electronic Edition of the CRC Handbook of Chemistry and Physics (page 4-3), and that Coppens et al. reside in Belgium. Coppens et al. teach that the package sheet structure comprises a packaging sheet material (paper spacer, col. 3, lines 41-43) packaging the planographic printing plate having a surface (col. 3, lines 41-43). The phrase “which contacts the coating film of the planographic printing plate when the sheet material is used for packaging the planographic printing plate”, is an intended use phrase that has not given patentable weight, since it has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQd 1647 (1987). The stipulation that the “surface” recited in the fifth line of claim 13 is a “contact surface” is therefore not a positive limitation since the “surface” is a

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“contact surface” (i.e. it “contacts the coating film of the planographic printing plate”) “when the sheet material is used for packaging the planographic printing plate”; therefore, the stipulation that the “surface” recited in the fifth line of claim 13 is a “contact surface” has not been given patentable weight.

Coppens et al. fail to teach that the surface has a Bekk smoothness of from 3 to 900 seconds.

Hayashi et al., however, disclose a photographic sheet material composed of a support and a sensitive emulsion coated on the support (col. 8, lines 30-39 and col. 4, line 45). Hayashi et al. disclose that a sheet of paper having smooth surfaces is inserted between every two sheets of the sheet material (col. 8, lines 30-39) or the sheets of paper and sheets of the sheet material are placed alternately (col. 9, lines 3-8). Hayashi et al. disclose that the paper has a Bekk smoothness of 5 to 10,000 seconds (col. 2, lines 48-54 and col. 8, lines 39-42), a range that overlaps with the range of 3 to 900 seconds claimed in the instant application. Given that the sheet of paper has “smooth surfaces” (col. 2, lines 40 and 45-47 and col. 8, lines 30-39), Examiner interprets the use of the plural form of “surface” to indicate that both surfaces of the sheet of paper have a degree of smoothness as quantified by the stipulated Bekk smoothness range of 5-10,000. Therefore, one of ordinary skill in the art would have recognized to have used paper as the paper spacer of Coppens et al. that has a Bekk smoothness of 5 to 10,000 seconds, a range that overlaps with the range of 3 to 900 seconds claimed in the instant application, since paper having Bekk smoothness values of from 5 to 10,000 seconds are notoriously well known suitable smoothness values for packaging photographic sheet material as taught by Hayashi et al.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used paper as the paper spacer of Coppens et al. that has a Bekk smoothness of 5 to 10,000 seconds, a range that overlaps with the range of 3 to 900 seconds claimed in the instant application, since paper having Bekk smoothness values of from 5 to 10,000 seconds are notoriously well known suitable smoothness values for packaging photographic sheet material as taught by Hayashi et al.

In regard to claims 14-16, 20 and 22, Coppens et al. fail to explicitly teach that a surface of the paper spacer has a Bekk smoothness from 3 to 100 seconds, 250 to 900 seconds, 8 to 560 seconds, 3 to 900 seconds or 3 to 55 seconds as claimed in claims 14, 15, 16, 20 and 22, respectively. However, Hayashi et al. disclose that paper having smooth surfaces has a Bekk smoothness of 5 to 10,000 seconds (col. 2, lines 48-54 and col. 8, lines 39-42), a range that overlaps with the ranges of 3 to 100 seconds, 250 to 900 seconds and 8 to 560 seconds claimed in claims 14, 15 and 16 of the instant application, respectively. Given that the sheet of paper has “smooth surfaces” (col. 2, lines 40 and 45-47 and col. 8, lines 30-39), Examiner interprets the use of the plural form of “surface” to indicate that both surfaces of the sheet of paper have a degree of smoothness as quantified by the stipulated Bekk smoothness range of 5-10,000. Therefore, one of ordinary skill in the art would have recognized to used paper as the paper spacer of Coppens et al. that has a Bekk smoothness of 5 to 10,000 seconds, a range that overlaps with the ranges of 3 to 100 seconds, 250 to 900 seconds, 8 to 560 seconds, 3 to 900 seconds and 3 to 55 seconds claimed in the instant application, since paper having Bekk smoothness values of from 5 to 10,000 seconds are notoriously well known suitable smoothness values for packaging photographic sheet material as taught by Hayashi et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used paper as the paper spacer of Coppens et al. that has a Bekk smoothness of 5 to 10,000 seconds, a range that overlaps with the ranges of 3 to 100 seconds, 250 to 900 seconds, 8 to 560 seconds, 3 to 900 seconds and 3 to 55 seconds, since paper having Bekk smoothness values of from 5 to 10,000 seconds are notoriously well known suitable smoothness values for packaging photographic sheet material as taught by Hayashi et al.

12. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. in view of Usui (US 6,306,254) and in further view of Patent Abstract of Japan 03036545 of Goto et al.

Hayashi et al. teach the material as discussed above and also teaches that the paper has a basis weight of 5 to 200 g/m<sup>2</sup> (col. 3, lines 8-10) and a pH of 3-8 (claim 4, col. 8). Craft paper is listed as a suitable paper for use in the invention (col. 2, lines 39-42). Hayashi et al. fail to teach that the sheet has a density of 0.7 to 0.85 g/cc or a moisture of 4% to 6%.

Usui (US 6,306,254) discloses an interleaf paper for protecting a photosensitive printing plate material coated with a water-soluble oxidation preventing layer which enables stabilization of the sensitivity of the photosensitive printing plate material in a short period of time (col. 1, lines 6-10 and col. 2, lines 22-26). An embodiment of the invention is disclosed as an interleaf paper for covering photosensitive printing plate material with a weight of about 38g/m<sup>2</sup>, a density of about 0.8g/cm<sup>3</sup>, and a moisture of about 6.0% that was formed from kraft pulp (col. 2, lines 51-62). A suitable density of interleaf paper for protecting photosensitive printing plate material is thus established by Usui. Therefore, one of ordinary skill in the art would have recognized to have synthesized the sheets of Hayashi et al. with the density specified by Usui in

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order to provide a paper capable of effectively protecting the printing plate and to enable stabilization of the sensitivity of the photosensitive printing plate material in a short period of time as taught by Usui.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have synthesized the sheets of Hayashi et al. with the density specified by Usui in order to provide a paper capable of effectively protecting the printing plate and to enable stabilization of the sensitivity of the photosensitive printing plate material in a short period of time as taught by Usui.

In regard to the moisture limitation, Patent Abstract of Japan 03036545 of Goto et al. discloses that the moisture content ratio of slip-sheets, which are printing plate packaging materials equivalent to interleaf sheets, is confined to 8% (line 11 of Constitution section, i.e., the moisture content ratio is no more than 8%); consequently, deterioration in visible image formability during packing and storing is thus prevented (Purpose section). One of ordinary skill in the art would have recognized to have limited the moisture content ratio of the sheet of Hayashi et al. to a moisture content ratio of 4-6% in order to prevent deterioration in visible image formability during packing and storing as taught by Patent Abstract of Japan 03036545 of Goto et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have limited the moisture content ratio of the interleaf sheet of Hayashi et al. to a moisture content ratio of 4-6% in order to prevent deterioration in visible image formability during packing and storing as taught by Patent Abstract of Japan 03036545 of Goto et al.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have limited the moisture content ratio of the interleaf sheet of Hayashi et al. to a moisture content ratio of 4-6%, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

13. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. in view of Dirx and in further view of Usui et al. (JP 8-39958).

Hayashi et al. teach the material as discussed above. Hayashi et al. fail to teach that the material is cardboard with a weight of approximately  $640 \text{ g/m}^2$  and a density of approximately  $0.72 \text{ g/cc}$ . Dirx, however, disclose that a sheet of cardboard (Figure 1, item 16) is provided under a stack of photographic plates as a component of a package for photographic plates (col. 3, lines 35-36). The cardboard sheet avoids the occasional cutting of the wrapping foil (Figure 1, item 15 and col. 3, line 24) by the edges of the lowermost plate (col. 3, lines 37-38). One of ordinary skill in the art would have recognized to provide a sheet of cardboard under the stack of photothermographic sheets of Hayashi et al. in order to avoid the occasional cutting of the wrapping foil by the edges of the lowermost photothermographic sheet as taught by Dirx.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a sheet of cardboard under the stack of photothermographic sheets of Hayashi et al. in order to avoid the occasional cutting of the wrapping foil by the edges of the lowermost photothermographic sheet as taught by Dirx.

In regard to the cardboard weight basis and density, Usui et al. (JP 8-39958) teach a protection paper cover (Figure 1, item 3) which is placed between every 50 photosensitive sheets

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(item 1, Figure 1) in a stack of the photosensitive sheets (paragraph 3). The protection paper cover of Usui et al. is equivalent to the cardboard sheet 16 in Figure 1 of Dirx. The bundle of 50 photosensitive sheets sandwiched between protection paper covers are wrapped in interior paper (Figure 1, item 4). The interior paper 4 is equivalent to the wrapping foil 15 of Dirx. Usui et al. discloses an example of the protection paper cover that has a weight basis of 640g/m<sup>2</sup> and a density of 0.72g/cm<sup>3</sup> (paragraph 18 and chart on page 3, Example 1). Usui et al. therefore establish the claimed weight basis and density values of the paperboard material (referred to as cardboard by Dirx and protection paper by Usui et al.) as suitable for paperboard for use as an effective packaging material for photosensitive sheets. Therefore, one of ordinary skill in the art would have recognized to have synthesized the cardboard sheet of Dirx with the weight basis and density specified by Usui et al. in order to provide a paperboard sheet capable of effectively avoiding the occasional cutting of the wrapping foil by the edges of the lowermost photothermographic sheet as taught by Dirx.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have synthesized the cardboard sheet of Dirx with the weight basis and density specified by Usui et al. in order to provide a paperboard sheet capable of effectively avoiding the occasional cutting of the wrapping foil by the edges of the lowermost photothermographic sheet as taught by Dirx.

14. Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coppens et al. in view of Hayashi et al. and in further view of Usui (US 6,306,254) and in further view of Patent Abstract of Japan 03036545 of Goto et al.

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Coppens et al. and Hayashi et al. teach the package sheet structure as discussed above. Coppens et al. teach that the paper spacer has a weight of more than  $15 \text{ g/m}^2$  and a pH of less than 9 (col. 3, lines 41-46).

Coppens et al. and Hayashi et al. fail to teach that the sheet has a density of 0.7 to 0.85 g/cc or a moisture of 4% to 6%.

Usui (US 6,306,254) discloses an interleaf paper for protecting a photosensitive printing plate material coated with a water-soluble oxidation preventing layer which enables stabilization of the sensitivity of the photosensitive printing plate material in a short period of time (col. 1, lines 6-10 and col. 2, lines 22-26). An embodiment of the invention is disclosed as an interleaf paper for covering photosensitive printing plate material with a weight of about  $38 \text{ g/m}^2$ , a density of about  $0.8 \text{ g/cm}^3$ , and a moisture of about 6.0% that was formed from kraft pulp (col. 2, lines 51-62). A suitable density of interleaf paper for protecting photosensitive printing plate material is thus established by Usui. Therefore, one of ordinary skill in the art would have recognized to have synthesized the sheets of Coppens et al. and Hayashi et al. with the density specified by Usui in order to provide a paper capable of effectively protecting the printing plate and to enable stabilization of the sensitivity of the photosensitive printing plate material in a short period of time as taught by Usui.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have synthesized the sheets of Coppens et al. and Hayashi et al. with the density specified by Usui in order to provide a paper capable of effectively protecting the printing plate and to enable stabilization of the sensitivity of the photosensitive printing plate material in a short period of time as taught by Usui.



In regard to the moisture limitation, Patent Abstract of Japan 03036545 of Goto et al. discloses that the moisture content ratio of slip-sheets, which are printing plate packaging materials equivalent to interleaf sheets, is confined to 8% (line 11 of Constitution section, i.e., the moisture content ratio is no more than 8%); consequently, deterioration in visible image formability during packing and storing is thus prevented (Purpose section). One of ordinary skill in the art would have recognized to have limited the moisture content ratio of the sheet of Coppens et al. and Hayashi et al. to a moisture content ratio of 4-6% in order to prevent deterioration in visible image formability during packing and storing as taught by Patent Abstract of Japan 03036545 of Goto et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have limited the moisture content ratio of the interleaf sheet of Coppens et al. and Hayashi et al. to a moisture content ratio of 4-6% in order to prevent deterioration in visible image formability during packing and storing as taught by Patent Abstract of Japan 03036545 of Goto et al.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have limited the moisture content ratio of the sheet of Coppens et al. and Hayashi et al. to a moisture content ratio of 4-6%, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

15. Claims 6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coppens et al. in view of Hayashi et al. and in further view of Usui et al. (JP 8-39958).

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Coppens et al. and Hayashi et al. teach the package sheet structure as discussed above.

Coppens et al. teach that the package structure contains cardboard top and bottom sheets having a weight of more than  $300 \text{ g/m}^2$  (col. 3, lines 36-40).

Coppens et al. and Hayashi et al. fail to teach that the cardboard has a density of approximately  $0.72 \text{ g/cc}$ .

Usui et al. (JP 8-39958) teach a protection paper cover (Figure 1, item 3) which is placed between every 50 photosensitive sheets (item 1, Figure 1) in a stack of the photosensitive sheets (paragraph 3). The protection paper cover of Usui et al. is equivalent to the cardboard top and bottom sheets of Coppens et al. The bundle of 50 photosensitive sheets sandwiched between protection paper covers are wrapped in interior paper (Figure 1, item 4). Usui et al. discloses an example of the protection paper cover that has a weight basis of  $640 \text{ g/m}^2$  and a density of  $0.72 \text{ g/cm}^3$  (paragraph 18 and chart on page 3, Example 1). Usui et al. therefore establish the claimed weight basis and density values of the paperboard material (referred to as protection paper by Usui et al.) as suitable for paperboard for use as an effective packaging material for photosensitive sheets. Therefore, one of ordinary skill in the art would have recognized to have synthesized the cardboard sheet of Coppens et al. and Hayashi et al. with the weight basis and density specified by Usui et al. since the claimed density value of paperboard material is suitable for paperboard for use as an effective packaging material for photosensitive sheets as taught by Usui et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have synthesized the cardboard sheet of Coppens et al. and Hayashi et al. with the weight basis and density specified by Usui et al. since the claimed density value of paperboard

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material is suitable for paperboard for use as an effective packaging material for photosensitive sheets as taught by Usui et al.

*Conclusion*

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is 703-305-4511. The examiner can normally be reached on Monday-Thursday from 9:00am to 6:00pm and on alternate Fridays from 9:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 703-308-4251. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

wba  
10/17/03

WBA

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER

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